Zfw
AF

OIPE IAP12
MAY 11 2006
PATENT & TRADEMARK OFFICE

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of May 9, 2006

MICHAEL CHOI

Serial No.	:	10/683,600	Group Art Unit: 3744
Filed	:	October 9, 2003	Examiner: Chen Wen Jiang
For	:	NOISE ATTENUATING DEVICE FOR A HEATING-VENTILATION-COOLING SYSTEM OF A MOTOR VEHICLE	

Mail Stop APPEAL BRIEF - PATENTS
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Sir:

APPEAL BRIEF

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being sent via first class mail addressed to Mail Stop APPEAL BRIEF – PATENTS, Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450 on May 9, 2006.

Lauren Barberena

Respectfully submitted,

ALLEMAN HALL MCCOY RUSSELL & TUTTLE LLP

John D. Russell
Registration No. 47,048
Customer No. 36865
of Attorneys for Applicants
806 SW Broadway, Suite 600
Portland, Oregon 97205
Telephone: (503) 459-4141
Facsimile: (503) 295-6679

05/11/2006 CNGUYEN 00000066 10683600
01 FC:1402 500.00 OP

Table of Contents

I. REAL PARTY IN INTEREST 3
II. RELATED APPEALS AND INTERFERENCES 4
III. STATUS OF CLAIMS 5
IV. STATUS OF AMENDMENTS 6
V. SUMMARY OF CLAIMED SUBJECT MATTER 7
VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL 9
VII. ARGUMENT 10
  A. Claim 14 is not properly rejected under Zarnick in view of Kawanishi et al. (or vice versa) because even if combined, the combination lacks explicit claim elements and there is no evidence to support the alleged motivation to combine 10
    1. Introduction 10
    2. The primary reference, Zarnick 11
    3. The secondary reference, Kawanishi et al. 12
    4. Even if the cited references are combined, there is still no disclosure of using the modified combination to direct flow to a passenger compartment of a vehicle traveling on the road. 13
    5. The cited references are simply inapplicable to Claim 14 and one another. 14
    6. There is no evidence of record that one skilled in the art would have a reasonable expectation of success in combining Zarnick with Kawanishi et al. 16
    7. The theory of inherency cannot be used to cure the clearly missing disclosure of the Zarnick/Kawanishi combination. 17
  B. Claim 14 is not properly rejected under Zarnick in view of Choi because even if combined, the combination lacks explicit claim elements and there is no motivation to combine the references. 19
    1. Introduction 19
    2. The primary reference, Zarnick 19
    3. The secondary reference, Choi. 20
    4. Even if the cited references are combined, there is still no disclosure of using the modified combination to direct flow to a passenger compartment of a vehicle traveling on the road 20
    5. The cited references are simply inapplicable to Claim 14 and one another 21
    6. There is no evidence of record that one skilled in the art would have a reasonable expectation of success in combining Zarnick with Kawanishi et al. 22
    7. The theory of Inherency cannot be used to cure the clearly missing disclosure of the Zarnick/Choi combination. 23
  C. Claim 20 is not properly rejected under Zarnick in view of Choi because there is no evidence of record to support the picking and choosing among the prior art teachings 24
  D. Conclusion and request for relief. 26
VIII. CLAIMS APPENDIX 27

I. REAL PARTY IN INTEREST

The real party in interest is Ford Global Technologies, LLC.

II. RELATED APPEALS AND INTERFERENCES

Applicant is not aware of any appeals or interferences that may be related to, or directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

III. STATUS OF CLAIMS

All pending claims have been finally rejected. Claims 14-15 and 19-20 are under appeal.

IV. STATUS OF AMENDMENTS

Subsequent to the Final Rejection, a first amendment after final was filed on February 13, 2006, and entered. A second amendment after final was filed concurrently with this appeal brief canceling claims 1-13, and 16-18 to reduce issues for appeal. The status of the second amendment was not known at the filing of this brief, however, this brief has been prepared assuming the amendment will be entered.

V. SUMMARY OF CLAIMED SUBJECT MATTER

The present application relates to reducing noise caused by turbulent air flow in a climate control system of a passenger vehicle traveling on the road. (Specification, page 1, lines 6-9).

Various methods have been applied to reduce noise in air ducts of a passenger vehicle. One approach attempts to improve the grill on an instrument panel of the vehicle, as described in U.S. Pat. No. 4,957,036. (Specification, page 1, lines 12-15).

The inventors herein have recognized a disadvantage with prior art noise reduction systems for climate control systems of passenger vehicles. Specifically, such system can have duct systems with significant amounts of bending, or other discontinuities, so that the system can be packaged into the vehicle. This is especially true with more modern vehicle designs where space outside the passenger compartment is at a premium. Air flowing around these bends, or through other discontinuities, can produce noise due to turbulent air flow caused by a blower fan. In one example, this can noise can be due to impingement from turbulence on the discontinuities. This noise can be bothersome to customers, especially during high fan speed operation, or when the fan is first turning on. (Specification, page 1, lines 16-28).

To overcome these disadvantages, a set of radial vanes can be used in the climate control system ducts upstream of the bends or discontinuities. In this way, it is possible to reduce the turbulence of the flow around the bends or discontinuities, thereby reducing the noise. (Specification, page 2, lines 3-7).

An advantage of the radial vanes is that they can be, in one example, integrally molded into the plastic ducts of the climate control system, thereby allowing ease in manufacturing with low cost. (Specification, page 2, lines 8-11).

Another advantage is that the system can reduce impingement or flow noise generated by flow turbulence contacting a discontinuity in the duct system. Thus, it can reduce turbulence upstream of a discontinuity or bend in ducts to reduce impingement or flow noise generated turbulent flow, generated from the fan, contacting the discontinuity in system. (Specification, page 2, lines 12-17).

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

The Examiner has set forth two separate grounds for rejection under 35 U.S.C. §103, each of which is to be reviewed on appeal. Specifically, the final Office action states:

> A) 3. Claims 1-5,9,14,15 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zarnick (U.S. Patent Number 5,728,980) in view of Kawanishi et al. (U.S. Patent Number 6,078,671) or vice versa.

> B) 4. Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zarnick (U.S. Patent Number 5,728,980) in view of Choi (U.S. Patent Number 5,722,357).

VII. ARGUMENT

A. Claim 14 is not properly rejected under Zarnick in view of Kawanishi et al. (or vice versa) because even if combined, the combination lacks explicit claim elements and there is no evidence to support the alleged motivation to combine.

1. Introduction

Before reviewing Claim 14 in detail, Applicant believes it may be helpful to review some additional background information. Specifically, Claim 14 relates to a method for reducing noise that may be bothersome to vehicle passengers in the passenger compartment of vehicle traveling on the road. Specifically, noise may be generated in the vehicle climate control system by a flow of air passing to the vehicle passenger compartment via ducts directing the flow.

One example approach for addressing this noise uses ducts directing a flow of air to a passenger compartment of a vehicle, where the ducts have radial vanes located downstream of a fan, but upstream of a discontinuity, such as a bend. In this way, it is possible to reduce the turbulence of the flow around the bends or discontinuities, thereby reducing the noise in the passenger compartment of the vehicle.

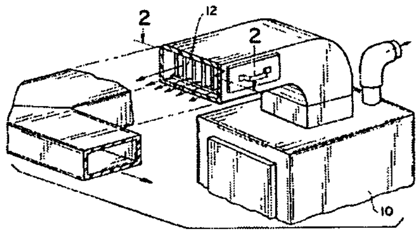
The primary standing rejection uses a combination of building ductwork (Zarnick) with a microphone-speaker based active noise cancellation system (Kawanishi et al.). However, as even this combination admittedly still fails to show all claimed elements of the method of Claim 14, the standing rejection goes on to further rely on the theory of inherency.

As will be described in more detail below, Applicant respectfully submits that even if the references are combined, they still fail to show explicit acts recited in the claimed method, such as the directing of flow to a passenger compartment of a vehicle. Further, there is no evidence of record to support the combination and modification of building ductwork with a microphone-speaker based active noise cancellation system in order to achieve the claimed elements.

Finally, the theory of inherency is impermissibly used to fill in gaping holes in the prior art in clear contradiction to well established precedent.

2. The primary reference, Zarnick

As noted above, the standing rejection applies a combination of Zarnick in view of Kawanishi et al., or vice versa. As its specification makes abundantly clear, Zarnick relates to building ductwork, as specifically noted in Col. 1:5-10 and shown in Figure 1, reproduced below.



This invention relates to a plastic covered duct silencer adapted for an enclosed building in which ducts pass through the building carrying ambient air either hot or cold to make the rooms comfortable. Sometimes noise is carried from rooms or the heating plant in the air ducts to another room to the annoyance of the occupants.

Zarnick, Figure 1 and Col 1:5-10

While the Examiner relies on the fact that the claims or Zarnick are not limited to buildings (Final Rejection, page 2), this does not negate the clear teachings of the reference. Further, whether or not the claims mention buildings misses the point – that there is no mention anywhere in the reference that the system can or should be applied to passenger compartments of a vehicle.

3. *The secondary reference, Kawanishi et al.*

Kawanishi et al. relate to a system using a microphone and speaker to generate active noise cancellation in a duct. The Office action cites Figures 9 and 10, which are actually a prior art device described by Kawanishi et al. Specifically, Kawanishi describe the device in Col. 1:

> FIGS. **9** and **10** show a silencer **224** in accordance with an earlier technology which is substantially the same as that shown in FIG. **7**, but which includes a plurality of rectangular blades or partitions **226** and an error detecting microphone **228**. The blades are made from a sound absorption material and extend radially from the center axis of the air passage of the duct to the inner surface of the duct wall to divide the air passage into seven passage segments extending in parallel with the center axis. An error detecting microphone detects any noise still remaining after the noise attenuation by the superimposition of the sound on the noise as stated above and delivers an error signal to the control. In this silencer, in addition to attenuation of the noise by superimposition of the sound on the noise as stated in connection with the first prior art, the noise is attenuated by noise absorption by the blades.

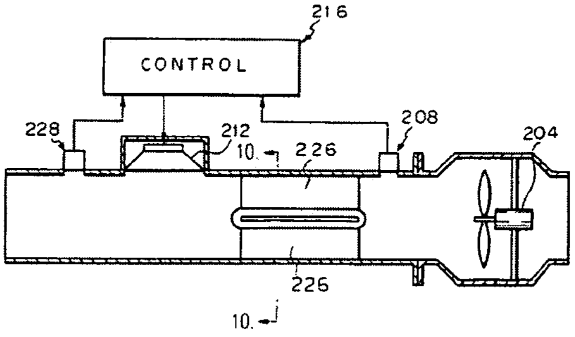


Fig. 9

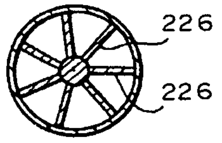


Fig. 10

Kawanishi et al., Figures 9-10 and Col. 1:

Kawanishi et al. go on to essentially disparage this approach in the very next paragraph of Col. 1, stating that such a system generates unacceptable noise and vibration. To address such a problem, Kawanishi et al. provide a system using a microphone, speaker, and a vibration shield. However, Applicant can find nothing in Kawanishi et al. that such a system can be applied to a passenger compartment of a vehicle.

4. *Even if the cited references are combined, there is still no disclosure of using the modified combination to direct flow to a passenger compartment of a vehicle traveling on the road.*

It is axiomatic that there are three basic requirements to establish a *prima facia* case of obviousness, one of which is that the prior art references when combined mush teach or suggest all claim limitations. MPEP §2143.

Simply put, even if Zarnick and Kawanishi et al. are combined as suggested by the Examiner, there is still nothing that relates to a climate control system in a passenger vehicle traveling on the road, and absolutely no mention of any method for directing flow to a passenger compartment of a vehicle via a duct. Claim 14 specifically requires:

> A method of operating a climate control system in a passenger vehicle traveling on the road, the method comprising:
>
> directing a flow of air to a passenger compartment of the vehicle via a duct, where the duct has a bend and where a blower fan is coupled to said duct upstream of said bend and where a set of radial vanes is located in said duct; and
>
> operating the blower fan to generate said flow of air in said duct, where said radial vanes protrude inwardly into said flow of air in said duct, and said vanes are located downstream of said fan and upstream of said bend, said vanes reducing noise otherwise caused by air flowing around said bend.

As such, the method requires directing flow to a passenger compartment of a vehicle via a duct with specific structural features including radial vanes. Further, the method requires operating a blower fan to generate the flow, where the fan and vanes has a specific relationship relative to a bend in the duct. The combination of Zarnick and Kawanishi et al., in whatever form, has no disclosure of directing flow to a passenger compartment of a vehicle – not with the disclosed ductwork, or any ductwork at all. This simple fact appears undisputed (Final Rejection, page 3), and is itself sufficient basis for reversal.

5. The cited references are simply inapplicable to Claim 14 and one another.

A second basic element required to establish a *prima facia* case of obviousness is that there must be some motivation to combine the references. MPEP 2143. Further, there must be evidence of record to support the conclusions of obviousness. *In re Lee,* 277 F.3d 1338 (Fed. Cir. 2002).

In the present case, the alleged motivation to combine the references is that to do so would "reduce the sound in the duct." (Final Rejection, page 3). However, the standing rejection identifies no evidence of record to support the alleged motivation to combine building ductwork with an active noise cancellation system, and then modify that combination to be used in a passenger compartment of a vehicle. Simply put, neither reference provides any hint that making the alleged combination and modifications will have any positive effect, let alone that it would further reduce noise.

Furthermore, none of the cited references recognize the particular issues identified by the present application, or how to address them. Applicant's specification describes such issues in the Background and Summary, for example, at page 1:

> The inventors herein have recognized a disadvantage with prior art noise reduction systems for climate control systems of passenger vehicles. Specifically, such system can have duct systems with significant amounts of bending or other discontinuities, so that the system can be packaged in to the vehicle. This is especially true with more modern vehicle designs where space outside the passenger compartment is at a premium. Air flowing around these bends, or through other discontinuities, can produce noise due to turbulent air flow caused by a blower fan. In one example, this noise can be due to impingement from turbulence on the discontinuities.

The Examiner appears to equate all types of noise reduction, whether they are used in an airplane, a boat, a building, or the passenger compartment of a vehicle. However, the type, strength, style, mechanism and effectiveness of noise reduction in these different types of entities can vary based on the requirements of each individual entity. The present application is directed to the particular problem of reducing noise generated by systems used for climate control of the passenger compartment in vehicles. Because of size and configuration constraints, passenger vehicles are faced with the delivery of a high ratio of air to duct volume with more discontinuities (bends, joints etc.) in the duct system. None of the cited references recognize such issues.

For example, as noted above, Zarnick is directed towards duct systems in a building. A building is a large, fixed object that does not move, unlike a vehicle. Applicant respectfully submits that a person of ordinary skill in the design of vehicle passenger compartment ventilation looking to solve the problem of excessive noise in the passenger compartment of a vehicle would not look to buildings. This is particularly true in the design of modern vehicles where the size of the passenger compartment has been increasing and the space remaining in the rest of the car and weight allotted for mechanical systems is at a premium. Further, Zarnick merely addresses noise carried from different rooms, not noise caused by the duct work itself. There is no teaching or suggestion in Zarnick that the duct silencers could be used in a vehicle. Additionally, there is no teaching or suggestion in Zarnick that the duct silencers could be used in ducts of a different shape, that ducts of a different shape could be used in place of the disclosed duct silencers, that the duct silencers by themselves are not completely effective, or that there is a problem with discontinuities in the duct work.

As another example, Kawanishi attempts to solve noise problems by adding a noise detecting microphone, a loud speaker to deliver the sound collected by the microphone in a reverse phase, and a vibration shield. (Column 2, lines 4-17) Applicant can find nothing in Kawanishi et al. dealing with passenger vehicles traveling on the road. Further, Applicant can find nothing in Kawanishi et al. suggesting that its radial vanes should be added to the building duct system of Zarnick, or that the bends of Zarnick should be added to its system. And finally, Applicant can find nothing in Kawanishi et al. indicating that the system can be used in a duct with bend, or that it would even be effective in a duct with bends, and even if a bend were added, there is no teaching of where it should be located.

The disparity between the applied references and the present application is reinforced with the PTO's own classification of the references. Since the Examiner has previously relied on the classification system in asserting the relevancy of the references (Office action mailed 6-24-05, pg 2), Applicant submits it is fair to review the facts of the presently applied references. Specifically, the present application is classified in U.S. Class 062/404 which is refrigeration. Zarnick is classified in U.S. Class 181/224, Acoustics; and Kawanishi is classified under 381/71.5 and 381/71.1, Electrical audio signal processing systems and devices. The fields of search included on the patents also fail to overlap. As such, these facts indicate that the Examiner has likely relied on impermissible hindsight in selecting and combining the applied references.

6. *There is no evidence of record that one skilled in the art would have a reasonable expectation of success in combining Zarnick with Kawanishi et al.*

Again, Applicant can find no evidence of a reasonable expectation of success for one skilled in the art to combine Zarnick with Kawanishi et al. given the great divide between the disclosures of the two references. Further, upon inspection of the two documents, the evidence of record actually indicates that one skilled in the art would be met with discouragement in trying to combine these references to achieve the elements of Claim 14.

First, Zarnick deals with rectangular ducts and linear vanes, while Kawanishi et al. deals with circular ducts and radial vanes. Absent the teachings of the present application, one skilled in the art would have no reason to think that the radial vanes of Kawanishi et al. would provide any benefit in the Zarnik system. This is especially true since the noise reduction in Kawanishi et al. relies on a microphone/speaker based active noise cancellation system. Likewise, one skilled in the art would have no reason to think that the active noise cancellation system of Kawanishi et al. would still function if used in ducts with bends, and specifically, where the vanes are located upstream of the bend.

Second, there is nothing in the record to establish that one skilled in the art would expect success of such a combined system when applied to a passenger compartment of a vehicle. As noted above, the vehicle is an entirely different environment than a building, with different problems, constraints, etc.

7. *The theory of inherency cannot be used to cure the clearly missing disclosure of the Zarnick/Kawanishi combination.*

As the references admittedly fail to show explicit claim features, the Final rejection has reverted to the theory of inherency. Specifically, the Final rejection asserts that because the combination of applied reference allegedly shows the same structure, it inherently performs the same process, as indicated at page 3:

> Under the principals of inherency, if a prior art device, in its normal and usual operation, would necessarily perform the method claimed, then the method claimed will be considered to be anticipated by the prior art device. When the prior art device is the same as a device described in the specification for carrying out the claimed method, it can be assumed the device will inherently perform the claimed process. *Ir re King*, 801 F.2d 1324, 231 USPQ 136 (Fed. Cir. 1986).

However, Applicant respectfully submits that any reliance on the theory of inherency in this case is misplaced. Even if the references were combined as proposed by the Examiner, there is no evidence to support the conclusion that the combination would inherently, or necessarily, direct a flow air to a passenger compartment of a vehicle via a duct. In fact, direction of airflow to a passenger compartment of a vehicle is necessarily ***not*** performed because there is no passenger compartment of a vehicle in the references.

It should be stressed that Claim 14 does not merely claim the operation of a prior art device. Rather, Claim 14 expressly requires specific acts to be performed – the directing of flow to a passenger compartment of a vehicle. The "normal and usual operation" of building ductwork, or a noise cancellation system, is clearly *not* to direct flow to a passenger compartment of a vehicle traveling on the road.

Finally, while the combination of prior art devices *may* be applied to a passenger compartment, this in no way means it is necessarily so applied. As noted in MPEP §2112, the theory of inherency is only appropriate where

> … the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient. In re Robertson, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999) (citations omitted).

Applicant respectfully submits that it is improper to use the theory of inherency to cure the deficiencies of the cited art related to the directing of flow to a passenger compartment of a vehicle. Not one cited reference has anything whatsoever to do with a vehicle passenger compartment, and thus could not possibly "inherently" direct flow to a passenger compartment. As such, the rejection of Claim 14 in view of Zarnick and Kawanishi et al. should be reversed.

B. Claim 14 is not properly rejected under Zarnick in view of Choi because even if combined, the combination lacks explicit claim elements and there is no motivation to combine the references.

1. Introduction

The secondary rejection of Claim 14 uses a combination of building ductwork (Zarnick) with radial vanes from an exhaust system of an internal combustion engine. (Choi). However, as even this combination admittedly still fails to show all claimed elements of the method of Claim 14, the standing rejection goes on to further rely on the theory of inherency.

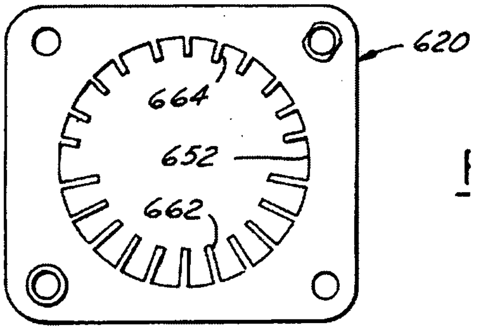
Similar to the arguments of Section A, Applicant respectfully submits that even if the references are combined, they still fail to show explicit acts recited in the claimed method, such as the directing of flow to a passenger compartment of a vehicle. Further, there is no motivation of record to combine and modify building ductwork with a noise reduction system in the exhaust of an engine. Finally, the theory of inherency is again impermissibly used to fill in holes in the prior art in clear contradiction to well established precedent.

2. The primary reference, Zarnick

The Zarnick reference is discussed fully above at Section A.2.

3. *The secondary reference, Choi.*

The Choi reference relates to reducing noise in an air induction system of an internal combustion engine. Specifically, it describes radial vanes in a radial duct that reduces noise of air entering an internal combustion engine of a vehicle. Figure 10, reproduced below shows one example embodiment. Just as in Zarnick and Kawanishi et al., there is no mention anywhere in the reference that the system can be applied to passenger compartments of a vehicle.



Choi Figure 10:

4. *Even if the cited references are combined, there is still no disclosure of using the modified combination to direct flow to a passenger compartment of a vehicle traveling on the road*

It is axiomatic that there are three basic requirements to establish a *prima facia* case of obviousness, one of which is that the prior art references when combined mush teach or suggest all claim limitations. MPEP 2143.

Simply put, even if the Zarnick and Choi are combined as suggested by the Examiner, there is still nothing that relates to a climate control system in a passenger vehicle traveling on the road, and absolutely no mention of any method for directing flow to a passenger compartment of a vehicle via a duct as required by Claim 14. The combination of Zarnick and

Choi, in whatever form, has no disclosure of directing flow to a passenger compartment of a vehicle – not with the disclosed ductwork, or any ductwork at all. This simple fact appears undisputed (see the Final Rejection at pg. 4), and is itself sufficient basis for reversal.

5. The cited references are simply inapplicable to Claim 14 and one another

A second basic element required to establish a *prima facia* case of obviousness is that there must be some motivation to combine the references. MPEP 2143. Further, there must be evidence of record to support the conclusions of obviousness. *In re Lee,* 277 F.3d 1338 (Fed. Cir. 2002).

Again, the alleged motivation to combine the references is that to do so would "reduce the sound in the duct." (Final Rejection, page 4). However, the standing rejection identifies no evidence of record to support the alleged motivation to combine building ductwork with an intake manifold system of an internal combustion engine, and then modify that combination to be used in a passenger compartment of a vehicle. Simply put, neither reference provides any hint that making the alleged combination and modifications would have any positive effect, let alone that it would further reduce noise.

And, as noted above, none of the cited references recognize the particular issued addressed by the present application, or how to address them. See Applicant's specification at the Background and Summary, for example, at page 1. None of the cited references recognize the particular issues of a passenger compartment of a vehicle, such as the issue of duct volume to passenger compartment volume. For example, the passenger compartment of a vehicle is likely orders of magnitude greater than that of engine displacement. This is just one example why one skilled in the art would not look to intake manifolds of internal combustion engines to reduce noise in ductwork of a building.

Additionally, Applicant can find nothing in Choi to indicate that radial vanes would be successful at reducing noise in the rectangular building ductwork of Zarnick. Further, there is nothing to indicate that the radial vanes may be used to reduce noise in a passenger compartment of a vehicle. Further still, there is nothing to indicate how such vanes should be positioned relative to a fan, of which an internal combustion engine intake system has none.

Given the deficiencies of Choi, combined with the deficiencies of Zarnick, as noted above in Section A.4, Applicant respectfully submits that the combination is not proper. Further, the disparity between the applied references and the present application is reinforced with the PTO's own classification of the references. Since the Examiner has previously relied on the classification system in asserting the relevancy of the references (Office action mailed 6-24-05, pg 2), Applicant submits it is fair to review the facts of the presently applied references. Specifically, the present application is classified in U.S. Class 062/404 which is refrigeration. Zarnick is classified in U.S. Class 181/224, Acoustics; and Choi is classified under 123/184.21 and 123/590, internal combustion engines. The fields of search included on the patents also fail to overlap. As such, these facts indicate that the Examiner has likely relied on impermissible hindsight in selecting and combining the applied references.

6. *There is no evidence of record that one skilled in the art would have a reasonable expectation of success in combining Zarnick with Kawanishi et al.*

Again, Applicant can find no evidence of a reasonable expectation of success for one skilled in the art to combine Zarnick with Choi given the great divide between the disclosures of the two references. Further, upon inspection of the two documents, the evidence of record actually indicates that one skilled in the art would be met with discouragement in trying to combine these references to achieve the elements of Claim 14.

First, Zarnick deals with rectangular ducts and linear vanes, while the cited disclosure of Choi deals with circular ducts and radial vanes. Absent the teachings of the present application, one skilled in the art would have no reason to think that the radial vanes of Choi would provide any benefit in the Zarnik system. This is especially true since neither reference provides even a hint that noise generated by the fan may be an issue, or that it may be addressed by the particular vanes and location of Claim 14. Further, the noise at issue in Choi relates to the throttle, of which Zarnick has none, nor would it have any need for one.

Second, there is nothing in the record to establish that one skilled in the art would expect success of such a combined system when applied to a passenger compartment of a vehicle. As noted above, the vehicle is an entirely different environment than a building or the induction system of an internal combustion engine, with different problems, constraints, etc.

7. *The theory of Inherency cannot be used to cure the clearly missing disclosure of the Zarnick/Choi combination.*

As the references admittedly fail to show explicit claim features, the Final rejection has again reverted to the theory of inherency. Specifically, the Final rejection asserts that because the combination of applied reference allegedly shows the same structure, it inherently performs the same process, as indicated at page 3:

> Under the principals of inherency, if a prior art device, in its normal and usual operation, would necessarily perform the method claimed, then the method claimed will be considered to be anticipated by the prior art device. When the prior art device is the same as a device described in the specification for carrying out the claimed method, it can be assumed the device will inherently perform the claimed process. *Ir re King*, 801 F.2d 1324, 231 USPQ 136 (Fed. Cir. 1986).

However, Applicant respectfully submits that any reliance on the theory of inherency in this case is misplaced. Even if the references were combined as proposed by the Examiner, there is no evidence to support the conclusion that the combination would inherently, or necessarily, direct a flow air to a passenger compartment of a vehicle via a duct. In fact, direction of airflow to a passenger compartment of a vehicle is necessarily ***not*** performed because there is no passenger compartment of a vehicle in the references.

It should be stressed that Claim 14 does not merely claim the operation of a prior art device. Rather, Claim 14 expressly requires specific acts to be performed – the directing of flow to a passenger compartment of a vehicle. The "normal and usual operation" of building ductwork, or an engine intake manifold induction system, is clearly *not* to direct flow to a passenger compartment of a vehicle traveling on the road.

Further, while the combination *may* be applied to a passenger compartment, this in no way means it is necessarily so applied. *See* Section A.7 above noting that binding precedent clearly eschews the notion that mere possibilities can support inherency.

In this case, neither Zarnick nor Choi, nor the combination thereof, inherently or otherwise shows any direction of flow to a passenger compartment of a vehicle. As such, the rejection of Claim 14 in view of Zarnick and Choi should be reversed.

C. Claim 20 is not properly rejected under Zarnick in view of Choi because there is no evidence of record to support the picking and choosing among the prior art teachings.

Claim 20 further specifies that the vanes protrude only partially into the duct and do not span the duct. Such a feature may be advantageously utilized to reduce noise while reducing flow restriction, thus providing advantages operation for the passenger compartment system.

The cited references contain opposite teachings – Zarnick utilizes linear vanes the span the duct, while Figure 10 of Choi discloses radial vanes that do not span the duct. There is no teaching in either reference that the particular vanes of Choi in the ductwork of Zarnick will provide any advantage whatsoever. The selection of such details can only be based on hindsight gleaned from Applicant's disclosure, and as such is improper.

As such, the rejection of Claim 20 should be reversed.

D. Conclusion and request for relief.

Applicant's claim 14 sets forth a method of operating a climate control system in a passenger vehicle traveling on the road to reduce noise otherwise caused by air flowing around a bend in the ducts. Each of the various combinations of references applied to Claim 14, even assuming they are appropriate, admittedly still lack explicit claim features. Further, it is clear that the missing features cannot be inherently contained within the references.

Applicant therefore respectfully requests that the Board reverse the standing rejections of the Final rejection, and direct the Examiner to allow pending claims 14, 15, 19, and 20.

VIII. CLAIMS APPENDIX

1-13. (cancelled).

14. (previously presented) A method of operating a climate control system in a passenger vehicle traveling on the road, the method comprising:

directing a flow of air to a passenger compartment of the vehicle via a duct, where the duct has a bend and where a blower fan is coupled to said duct upstream of said bend and where a set of radial vanes is located in said duct; and

operating the blower fan to generate said flow of air in said duct, where said radial vanes protrude inwardly into said flow of air in said duct, and said vanes are located downstream of said fan and upstream of said bend, said vanes reducing noise otherwise caused by air flowing around said bend.

15. (previously presented) The method of claim 14 wherein said duct and said vanes are made from a polymeric material, said vanes being integrally formed in said duct.

16-18. (cancelled)

19. (previously presented) The method of claim 14 wherein said vanes are approximately 10 to 15 mm wide.

20. (previously presented) The method of claim 14 wherein said vanes protrude only partially into said duct and do not span across said duct.